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THE PLANT DISEASE REPORTER

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The Plant Disease Survey

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THE PLANT DISEASE REPORTER

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THE PLANT DISEASE SURVEY

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SOME NOTEWORTHY SPECIMENS THAT HAVE BEEN RECEIVED

Tylenchus dipsaci on alfalfa from Salt Lake County, Utah; Benton County, Washington; and Umatilla County, Oregon. Collected by B. L. Richards, H. L. Westover, and F. D. Bailey, respectively.

Phyllosticta solitaria on apple from Wayne County, New York. Collected by H. C. Thomas, May 1.

Glomerella cingulata on peach fruit collected at Cocoa, Florida, by A. S. Rhoades, July 10.

Dodder on raspberry canes was received from R. E. Vaughan, Madison, Wisconsin, September 2.

Bacterium lachrymans causing angular leafspot of cucumber, collected in Monroe County, New York by M. T. Barrus, August 21. First specimens to be received from New York.

Uromyces betae on garden beets from Lincoln County, Oregon, received from H. P. Barss on September 22.

Alternaria leafspot of catalpa, collected in Erie County, New York, August 11, received from C. Chupp, September 15. It occurs annually in Erie County but does not seem to be present in other parts of the state.

Peronospora parasitica on nearly mature cabbage plants; 1 to 2% of plants being killed. Collected by C. Chupp in Yates County, New York, August 25.

POWDERY MILDEW OF RED CLOVER REPORTED FROM OREGON

Although powdery mildew has commonly been collected on clover in Oregon and other western states in the past it is not until this year that reports of its occurrence in unprecedented severity have come from local areas in Oregon. The first report was received by H. P. Barss at Corvallis on August 27 from the County Agent of Josephine County, located at Grants Pass. He had noted it for

the first time this year early in August and reported that 50 to 100 fields within a radius of ten miles of Grants Pass were infested. He did not know where it started in the county but observed that it spread like wildfire.

On September 13 the county agent of Multnomah County, Oregon, with headquarters at Gresham forwarded Professor Barss samples of red clover affected with the mildew and wrote:

> "This trouble seems to be quite general in most of the clover fields in this section. It starts in a small area and spreads in some areas to 10 to 20 feet across."

The reasons for these outbreaks are not fully understood at this time. It is possible that the western powdery mildew of clover (Erysiphe polygoni) has for some reason become unusually virulent, but it cannot be on account of excessive moisture, because as Barss reports, it has been the driest season on record there. It is not unlikely that the strain of powdery mildew that has been so abundant in the East during the past four years has become established west of the Rooky Mountains, and may be expected to affect clover there in the same way that it has done in the East.

An interesting and perhaps important thing about this Oregon material is that it is showing the perfect stage of the powdery mildew.

All collaborators in western states, and also others in the West who read this item, are asked to report any observations or collections that they make.

COVERED KERNEL SMUT OCCURS ON MILO

The following interesting observations, on the occurrence of covered kernel smut (Sphacelotheca sorghi) on milo, are reported by W. H. Tisdale of the Office of Cereal Investigations. You will note that he wants specimens and reports of the disease, and that specimens should be accompanied with normal heads of the same variety. We hope readers of this Reporter will be able to

contribute to this problem by furnishing such reports and specimens where possible.

"For many years milo has been considered to be very highly resistant to or immune from the covered kernel smut caused by Sphacelotheca sorghi. It remained smut free both in the field and in the experiments where the seed was heavily inoculated. In 1923 kernel smut occurred on milo in Kansas, Texas, and New Mexico. Mr. H. J. Clemmer, Superintendent of the Dalhart Experiment Station in Texas, and Mr. E. W. Thomas, County Agent, Plainview, Texas, reported fairly high percentages of kernel smut of milo in those localities. Mr. D. F. Barnes, Superintendent of the Experiment Station, Colby, Kansas, reported the occurrence of the disease at Colby. Mr. G. R. Quesenberry, Extension Agronomist of New Mexico, sent in specimens of milo infected with kernel smut which he collected in that State. A recent report from Mr. Quesenberry states that there is considerable kernel smut of milo in De Baca County, New Mexico, this year. Mr. Clemmer has also sent in a report of its occurrence at Dalhart, Texas, this season. Inoculated seed obtained from these men and from Professor Melchers of the Kansas Experiment Station, sown on Arlington Farm this year produced rather high percentages of kernel smut. Both Dwarf and Standard milo were infected.

"We would appreciate having station and extension men, as well as others who may be interested, look for this disease while traveling in the field and report to us any findings and, if possible, send us specimens of the smut with normal heads of the milo for comparison and seed purposes. This unexpected occurrence of kernel smut in milo, which has been heretofore considered highly resistant, is of considerable importance and deserves special attention."

CORN SMUT ABUNDANT IN ILLINOIS

Illinois: Corn smut has been unusually bad this year. Most fields show 3 to 10% of the stalks infected, with 1 to 5% loss of ears. Two exceptional cases should be noted. The edges of two fields ran 38% and 43% infected stalks, respectively. Ear loss was 19% and 29%, respectively. The opposite side of the worst field had only 3% smut and 1% ear loss. In the first field infection was much lighter farther into the field. Many corn stalks this year are only 3 to 4 feet high and end in a mass of smut so the loss includes fodder in such cases. (Young, Sept. 21)

Ohio: Disease general, about normal in prevalence. (Thomas, Sept. 1.)

Kansas: Always common on all sweet corn. Is considered the worst disease on this crop in Kansas. (Melchers, Sept. 1)

BLACK-BUNDLE DISEASE OF CORN (CEPHALOSPORIUM ACREMONIUM CORDA)

In a letter to the Survey dated September 21, Paul A. Young of the Illinois Plant Disease Survey states that the black-bundle disease of corn has been found this year in forty widely scattered counties and that it probably occurs throughout the state. Most fields show only 1 to 3% of the stalks badly affected, but in the vicinity of Havana in sandy soil an average of 10% of the stalks were infected. A field at Springfield showed 13%, and three fields in the southern tip of the state 30%, 40% and 70%, of badly diseased stalks.

According to Reddy and Holbert (The black-bundle disease of corn; Jour. Agr. Res. 28: 177-205; Jan. 26, 1924) this disease has been found in Connecticut, New York, Ohio, Indiana, Illinois, Wisconsin, Minnesota, Iowa, South Dakota, Kansas, South Carolina, and California, a distribution which "renders it probable that it occurs wherever corn is grown in the United States." Connecticut, Illinois, and South Dakota are the only states from which it has been reported direct to the Survey. It is desired that collaborators should watch for it and report its presence in their states. Young remarks that this disease has long been known to the agronomist as "purple-stalk barrenness."

ALFALFA CROWN WART IN UTAH

B. L. Richards writes that the alfalfa crown wart (Urophlyctis alfalfae) is widely distributed throughout the state of Utah and is probably an important factor in the deterioration of alfalfa fields.

THREE MORE STATES REPORT ON APPLE FIRE BLIGHT

Ohio: In general, fire blight is much less common this year than normal. Only a few commercial orchards in the northern part of the state have serious outbreaks. These are confined principally to the Jonathan variety of apples. (H. C. Young, Sept. 1)

Michigan: Fire blight is much less severe than last year. Several orchards in Oakland County in the southwestern part of the state have suffered severe outbreaks. Over the remainder of the state, except in isolated cases very little blight has developed. Many orchards badly blighted last year have shown very little of the disease this season. (Bennett, Sept. 1)

South Dakota: Very prevalent and destructive in many sections of the state. Most severe in eastern and Black Hills sections. (Publicity and other control measures lacking.) Many other plants, e.g. mulberry, plum, pear, cratagus, and many hybrids more or less infected. Pruning easily controls the disease in most sections. Some western orchards destroyed by this disease. (Petry, Sept. 1)

BLISTER CANKER OF APPLES

From Iowa D. R. Porter writes that blister canker is severe in old orchards on Ben Davis, and from South Dakota E. J. Petry reports the disease causing much loss in eastern portions of the state.

MORE REPORTS ON APPLE SCAB

New Hampshire: Apple scab will not cause much if any more damage than last year. (Butler, Sept. 16)

Michigan: Susceptible varieties are badly damaged. Very little sound fruit will be harvested from unsprayed trees, and the scab count will run high in the majority of commercial orchards. Leaf infection was especially abundant, and spray injury following this has caused considerable damage. (Bennett, Sept. 1)

South Dakota: Common, though not serious, in some sections of the state. (Petry, Sept. 1)

OHIO AND SOUTH DAKOTA REPORT ON CEDAR RUST OF APPLES

Ohio: Prevalent in the southern part of the state. Is doing about the usual amount of damage. (H. C. Young, Sept. 1)

South Dakota: Apple rust was local, with little damage, as last year. The red cedars have many little galls, presumably from this season's infection. Many old galls of one or two seasons' telial-production are also alive. (Petry, Sept. 1)

CONSIDERABLE BLACK ROT OF GRAPES THIS YEAR

South Carolina: Severe locally, but in general less serious than usual. (Ludwig, Sept. 1)

Kentucky: About two weeks ago grape growers near Louisville were having considerable difficulty. One vineyard which had been sprayed five times had then sustained a loss of about 25%. Observation indicates that the spraying had not been done carefully. (Valleau, Sept. 1)

Ohio: Traces observed. (Hesler, Aug. 1)

Illinois: More than usual this year on account of wet weather. It is causing almost complete loss of grape crop in several sections where spraying is not practiced. Farm vineyards are also suffering. Fruit badly rotted but leaf injury not much more than usual. (Anderson, Sept. 15)

Michigan: Loss small, fruit rot generally distributed, but not causing any great amount of damage. (Bennett, Sept. 15)

Kansas: Reported severe in Linn County. It has also been found more common than usual in various sections of the state where grapes are grown. (Stokdyk, Sept. 15)

DEAD-ARM OF GRAPES

Dead-arm of grapes (Cryptosporella viticola) is reported from three states. Ludwig in South Carolina says it is severe locally; Hesler reports it present to a considerable extent in Ohio; and Bennett reports more than last year in Michigan. He says further:

> "It is present in a majority of vineyards, usually not more than 1 to 2% of the plants are affected, but in some cases 10 to 20% of the vines are diseased." (September 15)

IS DOWNY MILDEW OF GRAPES MORE PREVALENT THIS YEAR THAN USUAL?

From the accompanying reports we would judge that Plasmopara viticola is causing more damage this year than usual. The fairly cool and moist season in eastern United States is probably conducive to it. There is undoubtedly a wide variation of the susceptibility of grape varieties to this disease and, therefore, if downy mildew is unusually abundant in your section, you will have a good opportunity to get a record of varietal susceptibility, especially if you have any varietal test plots that you can go over.

West Virginia: Quite prevalent this season. (Giddings & Berg, Aug. 15)

Ohio: General over northern Ohio. No serious cases have yet come to attention. (Hesler, Aug. 1)

Illinois: Very serious throughout the state this year. Ordinarily grapes do not suffer from this disease in Illinois on account of dry summers. The past two summers, however, have been unusually wet and consequently grape mildew has caused severe injury. At the University vineyard Brighton seems to be most susceptible. Mainly on the leaves. Little loss from fruit disease. (Anderson, Sept. 15)

Michigan: This disease is present in many vineyards throughout the grape growing sections of the state. In a few vineyards the loss due to fruit attack will run as high as 10%. Leaf spotting is common. (Bennett, Sept. 15)

Iowa: General in Iowa. Slight damage as yet except in southeastern Iowa where it is severe in some vineyards. (Porter, Aug. 15)

REPORTS ON OTHER GRAPE DISEASES

Anthracnose caused by Gloeosporium ampelophagum

South Carolina: Not as abundant as usual. (Ludwig, Sept. 1)

Illinois: A number of specimens of this disease have been received. I am of the opinion that it is becoming much more prevalent than formerly. Observed as abundant in Madison County. (Anderson, Sept. 15)

Powdery mildew caused by Uncinula necator

Michigan: Very rarely found in commercial vineyards. (Bennett, Sept. 15)

Chlorosis

Illinois: The same chlorotic condition noted last year, especially in Madison County, is showing up even worse this year. It is thought that this condition is due to root worm injury. About 10% of the vines in the grape growing section about Collinsville show this condition. Spraying is not practiced in this region. (Anderson, Sept. 15)

OHIO AND MICHIGAN REPORT ON BACTERIAL SPOT OF PEACH

Ohio: Very severe in the northern part of the state, especially in orchards not in perfect growing condition. (Young, Sept. 1)

Michigan: This disease is unusually severe in orchards where it is present. Well cared for trees are showing the canker stage in quantity sufficient to kill a large number of twigs. Some neglected orchards have been almost defoliated, and a large part of this season's twig growth is dead. (Bennett, Sept. 1)

HAVE YOU SEEN ANY PEACH RUST THIS YEAR?

John C. Dunnegan located at Fort Valley, Georgia writes on September 22 that peach rust (Tranzschelia punctata) which has been widespread in the Fort Valley section during the past three years has failed to appear this year. He says further that he did not notice any during a recent trip in southern Alabama.

This disease usually occurs in some of the more southern states and in California. We would ask collaborators and others in those states to help us on this problem by looking especially for peach rust, and letting us have the results of the observations as well as any specimens in case such are found.

PEAR SCAB (VENTURIA PYRINA)

Connecticut: Common on certain varieties. Found conidial stage on old twigs proving it carried over the winter on these. (Clinton, Sept. 15)

New York: Disease on Flemish Beauty is nearly universal in Ulster County (Hudson Valley). Reported common on the same variety in Dutchess County (Hudson Valley). (Guba, July 1)

Michigan: On susceptible varieties this disease is severe. The fruit was infected early and shows considerable malformations and cracking. Kieffers are generally clean. (Bennett, Sept. 15)

Wisconsin: More than usual. Few pear growers in Wisconsin. (Vaughan, Sept. 15)

PEAR BLIGHT IN ILLINOIS

"Blight (Bacillus amylovorus) is very severe throughout the state. Almost no crop as a result of blossom blight. Blight has been unusually destructive because the weather has been cool and moist allowing the blight to remain active throughout the summer." (Anderson, Sept. 15)

ONION DISEASES

Smut (Urocystis cepulae)

Connecticut: One report, not serious; field not in onions for 10 to 15 years. (Clinton, Sept. 15)

Ohio: A close examination of a large acreage of onions in Ohio showed but very little onion smut, in most fields absolutely none. Infection has started in only a few places in commercial fields. (H. C. Young, Sept. 15)

Wisconsin: Serious in a few fields where formaldehyde was not used. 50 to 75% loss in these cases. Formaldehyde treatment used in most cases and with the usual satisfactory results. (Walker, Sept. 15)

Minnesota: Formaldehyde soil treatments gave excellent results in some of the onion fields around St. Paul. (Plant Pathology and Botany, Sept. 15)

Iowa: Severe in southeastern Iowa near Davenport. (Porter, Aug. 15)

Downy mildew (Peronospora schleideni)

Connecticut: One report; no very serious injury. First report in recent years. (Clinton, Sept. 15)

New York, Genesee & Orleans Counties: Onion mildew appeared in three spots in an eight acre field and necessitated spraying. (Felix, Aug. 11)

Wayne County: The event of the week in this county has been the appearance of onion blight or mildew. So far it has been found in eight out of nine fields inspected and it promises to become serious as onions are but half to two-thirds of their expected size. A letter of warning will be sent out immediately as most growers are not looking for it. This year has been so cool at least in July that it would not be surprising to have an epidemic of onion and potato blight. Demonstration plots using 20-80 copper lime dust and 5-5-50 Bordeaux have been laid out. (Newhall, Aug. 11)

Ohio: Outbreak in large acreage in north-central Ohio. Dust is being used by the grower. (Hesler, July 15)

Wisconsin: None noted in main onion growing sections. Doubtful specimens were received from Monroe County. (Walker, Sept. 15)

Pink root (Fusarium malli)

New York: Pink root is beginning to put in its appearance, being more common on smutty or otherwise backward onions. (Newhall, July 7)

Ohio: This disease is quite prevalent in practically all of the onion sections of the state. It is causing what the growers know as blight. The actual loss caused by pink root varies considerably. In some places, especially one 200 acre tract, it shows about 5 to 8% actual loss. Another 1500 acre tract shows probably from 6 to 8%, the spots in the field being practically entirely destroyed. (H. C. Young, Sept. 15)

Louisiana: A number of complaints during winter and spring season. (Edgerton, July 1)

Texas: Small traces; 1% loss. (Taubenhaus, July 1)

Smudge (Colletotrichum circinans)

Wisconsin: Very common on all white varieties. Loss heavier than usual. (Walker, Sept. 15)

Neck rot (Botrytis allii)

Wisconsin: Very serious on white sets, 30 to 50% infected bulbs in every field examined. (Walker, Sept. 15)

Fusarium bulb rot (Fusarium sp.)

Wisconsin: Injury very slight up to date. Cool season probably important in this case in reducing amount of disease. (Walker, Sept. 15)

Brittle (cause unknown)

New York: A new onion disease has made its appearance. It has the appearance of "Brittle," being characterized by abnormally curly tops. On digging up affected plants some of the roots are abnormally brittle. Both tops and roots on incubation develop a Fusarium. Entire fields or only portions of them may be affected. It is fairly widespread. (Newhall, June 30 Monroe County)

OTHER REPORTS ON POTATO LATE BLIGHT

New Hampshire: Late blight has appeared but no great damage has so far been reported. (Butler, Sept. 16)

Michigan: Reported from Montcalm and Alpena Counties. Mild case in Montcalm confined mostly to low area. Entire field blighted in Alpena. No blight found in sprayed fields in same region. (Kotila, Sept. 1)

SPINDLE SPROUT OF POTATO

Ohio: Very common in fields from uncertified seed. (Tilford, Sept. 1)

Michigan: About 30% found in field planted with small tubers from unselected stock. (Kotila, Sept. 1)

WISCONSIN TOBACCO DISEASES

James Johnson located at Madison, Wisconsin, reports as follows on tobacco diseases as of September 1. The widespread occurrence of the two

bacterial diseases in that state which have but recently appeared is of particular interest.

Blackfire (Bacterium angulatum) - "Infection very general. On fully three-fourths of the farms. Damage varying from slight up to 50% of the value of the crop. On account of its general distribution it is doing much more damage than wildfire. This is the first official recognition of the disease in Wisconsin. It has no doubt existed for a long time. We have difficulty in getting artificial infection with the organism. Season has been cool and wet with frequent storms."

Wildfire (Bacterium tabacum) - "Infection on 200 farms (estimated), more than 100 known cases. Heavy damage in some cases, i. e. almost total loss. In most cases possibly only up to 20% crop damage. Season has been favorable for development. Much more damage would have resulted had the tobacco crop been normal in growth. Only 50% of a crop in sight owing to other causes."

Root rot (Thielavia basicola) - "Heavy damage from this disease general throughout the state. Only one-half of a crop in sight, one-half of this loss may be attributed to black root rot. Cold season favorable. Disease resistant strains showing good."

Mosaic (Cause unknown) - "Comparatively little damage from mosaic this season. It is quite generally present on a small percentage of the plants however."

Brown root rot (Cause unknown) - "This trouble is very general this season and almost ranks with black rot in damage done. Not yet proven to be the same as Connecticut Valley disease. Generally present on sod land."

ROOT ROT AND MOSAIC OF TOBACCO IN OHIO

Root rot (Thielavia basicola) - "This disease is causing considerable loss this year. The tobacco crop in general is away below the average because of the root rot combined with very unfavorable weather conditions." (Young, Sept. 1)

Mosaic - "About the usual amount, 3 to 5% of plants affected. (Young, Sept. 1)

FUSARIUM WILT OF TOMATO

Connecticut: One or two reports; not abundant. (Clinton, Sept. 15)

Louisiana: Complaints decreasing on account of the rather general practice of planting resistant varieties. With non-resistant varieties about as much wilt as usual. (Edgerton, Sept. 1)

Ohio: In the southern tomato growing section of the state the Fusarium wilt continues to be the disease causing the greatest loss. The general average in the Marietta district is estimated about 12% loss. The loss in the northern part of the state would be between 2 and 4%. (Young, Sept. 15)

Michigan: No reports of the occurrence of the disease this year. Season unusually cool and unfavorable for the development of the fungus. (Nelson, Sept. 15)

Kansas: First reported June 13 from Reno County. More severe in southeastern part of state this year, but less so in the central and north central regions of the state. Some resistant varieties doing very well, especially Marvel, Louisiana Red, Marvanna, and some hybrids developed at this station. (White, Sept. 15)

TOMATO MOSAIC

Connecticut: Several reports; usual amount. (Clinton, Sept. 15)

Louisiana: Severe as usual. (Edgerton, Sept. 1)

Ohio: In field tomatoes the appearance of mosaic is general, yet severe losses were very much localized making the average for the state not more than 1 or 2%. (Thomas, Sept. 15)

Michigan: Reports early in the summer indicated that mosaic would be an important disease this year in the market crop. Probably slightly more this year than usual, although contra-indicated by the unfavorable temperature for the growth of the tomato plant. (Nelson, Sept. 15)

Wisconsin: More than usual. At least 25% of plants seen in the southern part of the state show mosaic. (Vaughan, Sept. 15)

Minnesota: Extremely severe throughout the state. (Plant Pathology and Botany, Sept. 15)

GRAND RAPIDS DISEASE OF TOMATO, APLANOBACTER MICHIGANENSE

According to R. C. Thomas of the Ohio Station this disease has assumed epidemic form in the Cleveland greenhouse district this year and he has received reports of its presence in other greenhouse sections. Considerable loss will result to tomatoes under glass on account of this disease.

From Connecticut, G. P. Clinton writes on September 15 that the disease is present on at least two farms but not in serious proportions.

NOTES

Powdery mildew (Erysiphe polygoni) is very severe throughout the coastal section of South Carolina, some fields being partially defoliated. (Moore)

Considerable bitter rot of apples is showing up in orchards in southern Ohio. The disease is somewhat later in starting this year than usual. (H. S. Young)

Root rot of apples caused by Xylaria and possibly other factors is causing loss of trees each year in Kentucky orchards. The problem is quite serious. (Valleau & Magill)

The first authentic specimens of the short-cycled orange rust of blackberry caused by Kunkelia nitens are reported by Folsom of Maine and Dodge of the United States Department of Agriculture.

A leaf curl of tomato is reported by E. J. Petry of South Dakota. From 5 to 10% of the plants in various locations of the southeastern part of the state are dwarfed, deep green in color, and the leaves were decidedly brittle. The leaf edges were curled up in a spoon-shaped manner and the blades were thicker than normal. Affected plants set no fruit.

A yellows disease of parsnips, which affects the fruiting of the plant, has been observed in the southeastern part of South Dakota by E. J. Petry. The leaves are yellow and the parsnips elongated. A local species of Sanicula is similarly affected.

A variety of squash known as Table Queen or Des Moines is showing mosaic in Kansas according to E. A. Stokdyk.

Aster yellows has been noted by E. J. Petry of South Dakota as causing very high, and in some cases total, loss in certain parts of the southeastern part of the state. He observes also that Erigeron canadensis is affected with a similar disease.

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